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ABSTRACT

In 1994, the University of Denver received a grant to develop and operate the Frontier Mental Health Services Resource Network (FMHSRN). FMHSRN's principal aim was to improve delivery of mental health services in sparsely populated "frontier" areas by providing technical assistance to frontier and rural audiences. Traditional dissemination methods such as telephone and personal contacts, conferences, and publications, as well as newer telecommunication methods were utilized. Numerous professionals with extensive first-hand experience in mental health issues and services in western rural America prepared short "Letters to the Field" for dissemination to a frontier-oriented list of persons and agencies and made presentations at key professional meetings or FMHSRN-supported institutes and workshops. Letters to the field were posted on a website developed by FMHSRN. Topics studied included the need and demand for mental health services in frontier counties; availability and access to services; delivery of mental health services through medically-based facilities and primary care physicians; costs and outcomes of various interventions, including those for the severely mentally ill, children and adolescents, and the elderly; strategies for recruiting, training, and retention of frontier mental health providers; mental health training for primary care physicians; integrated communication systems, especially "telemental health services"; and managed behavioral healthcare. Appendices present technical assistance reports, titles of Letters to the Field and knowledge-synthesis papers, and maps of frontier areas. Contents of four training videotapes are listed. (TD)

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FINAL REPORT

Center for Mental Health Services Contract No. 280-94-0014
"Center for Support of Mental Health Services in Isolated Rural Areas"
(also known as **Frontier Mental Health Services Resource Network**)

James A. Ciarlo, Ph.D., Principal Investigator
University of Denver, Colorado

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INTRODUCTION

In 1994, the University of Denver was awarded Contract No. 280-94-0014, "Center for Support of Mental Health Services in Isolated Rural Areas", by the Center for Mental Health Services (CMHS), Substance Abuse and Mental Health Services Administration. This contract funded the development and operation for three years (4 1/2 years after extensions) of a "Center" that would support (1) accumulation and dissemination of knowledge about, (2) field study of, and (3) provision of technical assistance to administrators, providers, and consumers of, mental health services in "isolated rural areas" of the U.S., defined as nonmetropolitan trade areas in which counties have fewer than 20,000 "urban" residents, or nonmetropolitan counties with less than 7 persons per square mile. These counties, often termed **"frontier"** counties, are concentrated in the western U.S. This short and easily recognized term, plus the fact that the "Center" was actually a consortium of rural experts from multiple states and institutions, with the University of Denver as its "home base", led to adoption of the working title **Frontier Mental Health Services Resource Network (FMHSRN)** for the project.

The Network's principal aim was to improve the delivery of mental health services in "frontier" rural areas by providing technical assistance to a wide variety of frontier- and rural-oriented audiences. Both traditional methods such as telephone and personal contacts, conferences, and publications, and newer telecommunication methods such as Internet website, and a listserv, were utilized. To accomplish this aim, the needed knowledge and/or expertise first had to be gathered, integrated, and critiqued by both Network members and outside reviewers. The topics to be covered were specified in the contract's Work Statement, and each of these is discussed in some depth below. Thereafter, Network members performed the following tasks:

—developed working drafts ("**knowledge syntheses**") of papers on their topics;

—checked the validity and relevance of their findings and ideas for improving services with FMHSRN Advisory Committee members, with outside experts, and in formal focus-type "study groups";

—prepared relatively short "***Letters to the Field***" on key findings for dissemination to a frontier-oriented list of persons and agencies; and

—made presentations of their findings and suggestions at key professional meetings or FMHSRN-supported "institutes" and workshops.

To facilitate the provision of technical assistance information to the field, the *Letters to the Field* were also posted on a newly developed FMHSRN website for access by any interested person in the world (information regarding such accesses is provided below).

A major new focus of FMHSRN's technical assistance not entirely anticipated at the project's start was the rapidly developing area of rural **telemental health services (TMHS)**, or delivery of mental health services to consumers in remote areas where in-person services were scarce or non-existent using interactive telecommunication technology. This focus developed out of the contract's initial specification of "integrated communication systems" as a required topic, plus the recruitment into the Network of a telemedicine expert with a strong mental health and social services background. The work and guidance

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of this Network member resulted in the design and conducting of a training "Institute" on TMHS for western state mental health system officials, followed up by six on-site TMHS workshops for states with substantial frontier populations.

Another special focus—**managed behavioral healthcare**—was added by the FMHSRN's Government Project Officer. These two topics, an expansion of the contract topics, were successfully integrated into the FMHSRN's knowledge-gathering and technical assistance activities without loss of focus on contracted requirements, and without additional funds.

NETWORK ORGANIZATION, PERSONNEL, ADVISORY COMMITTEE, AND COLLABORATING ORGANIZATIONS

Project Organization. The FMHSRN was organized as federally sponsored project based within the Department of Psychology's Mental Health Systems Evaluation Project at the University of Denver. Administrative support was provided by both the University's Office of Sponsored Progarms, and through a subcontract with the Boulder, Colorado-based Mental Health Program of the Western Interstate Commission for Higher Education (WICHE). Capitalizing on their experience and staff, WICHE handled most of FMHSRN's extensive off-site operations and supporting tasks. This included such things as making conference and workshop arrangements, meeting travel arrangements and reimbursements, developing mailing lists, reproducing FMHSRN documents, and disseminating documents. The bulk of the project's knowledge gathering, analysis, and technical-assistance tasks were supported by subcontracts and individual consulting agreements of Network members with the University of Denver.

The University-based FMHSRN ("Center") staff included P.I./project director Ciarlo, project editor/research associate Pearlanne Zelarney, and project administrator Barbara Greer. These staff members worked half-time for most of the project. Administrative supervision was by the University's Office of Sponsored Programs (OSP), with Ms. Gwen Gennaro serving as the project's Contract Officer.

Network Members. The following persons, listed alphabetically and identified with their initial institutional affiliations and addresses, were original members of the FMHSRN consortium:

James A. Ciarlo, Ph.D., Director, Mental Health Systems Evaluation Project, and Research Professor, University of Denver Department of Psychology; also FMHSRN Principal Investigator and Project Director.

Jack Geller, Ph.D., Director, Center for Rural Health and Associate Professor of Community Medicine, University of North Dakota School of Medicine, Grand Forks, ND.

Walter LaMendola, Ph.D., Private consultant in Telecommunication Systems and Telemedicine; subsequently Director of Technology, Graduate School of Social Work, University of Denver, CO.

Frank D. McGuirk, Ph.D., Director, Mental Health Program, Western Interstate Commission for Higher Education (WICHE), Boulder, CO.

Dennis F. Mohatt, M.A., Executive Director, Menominee County Community Mental Health Center, MI (upper peninsula) and Certified Social Worker; subsequently President, National Association for Rural Mental Health.

James E. Sorensen, Ph.D., Professor of Accounting, College and Graduate School of Business Administration, University of Denver, CO.

John H. (Jack) Wackwitz, Ph.D., Project Director, Colorado Rural Crisis Study, Colorado Division of Mental Health, Denver, CO.

Morton O. Wagenfeld, Ph.D., Professor of Sociology, Western Michigan University, Kalamazoo, MI; also FMHSRN Co-Principal Investigator until his sabbatical to Europe, when Dr. Ciarlo also assumed his supervisory duties.

The breadth of professional rural experience represented by the Network members was truly impressive, and far beyond what any small, full-time staff could have brought to this project. Such breadth, however, was obtainable only by virtue of the fact that all of these members (except for the Project Director) worked only a fraction of their time for FMHSRN, each having a major professional commitment elsewhere. As a result, FMHSRN work often was delayed by the press of duties of members' full-time positions, and extensions of time (without increases in funds) were necessary. In addition, major job changes occasioned the loss to the project of several Network members (McGuirk, Mohatt, and Wackwitz). In the 02 year, a sabbatical leave removed Co-P.I. Wagenfeld from the project for that year and necessitated Dr. Ciarlo's assuming those additional duties and increasing his time on the project from 25% to 50%.

At later points in the project, new Network members were added, either to replace persons who had to resign because of job changes, or to expand the capabilities of the FMHSRN in specific domains. Those domains included managed behavioral healthcare, epidemiology/needs assessment, geographic mapping, and services to the severely mentally ill. The experts added in these domains included:

Andrew B. Keller, Ph.D., originally with the Mental Health Program, Boulder, CO and subsequently an employee of the Mental Health Corporation of Denver, CO.

Marjorie Ross, M.H.S., managed care expert with Principal Healthcare of Delaware, Wilmington, DE; also a former DHHS employee.

Charles E. Holzer III, Ph.D., Professor of Psychiatric Epidemiology, University of Texas Medical School, Galveston, TX.

Douglas Clark, Ph.D., Department of Geography, University of Denver; also with the U.S. Geological Survey, Department of the Interior, Denver, CO.

Courtenay Harding, Ph.D., Director, Mental Health Program, WICHE, Boulder, CO; also, FMHSRN Co-Principal Investigator in the project's final year.

Extensive professional and technical assistance to the project, particularly in reviewing Network manuscripts and developing information-dissemination strategies and procedures, was provided by Harold F. Goldsmith, Ph.D., a sociologist formerly with the Survey and Analysis Branch of the Center for Mental Health Services, SAMHSA.

Pearlanne Zelarney, M.S., initially hired as FMHSRN's Project Editor, proved to be exceptionally able at both information-gathering and analysis tasks, and was upgraded to Research Associate and functioned as an additional Network member, while retaining her editorial and dissemination duties.

All Network members were in frequent communication with each other via a University of Denver-based E-mail "listserv" (**ruralnet.edu**). In addition, members also regularly attended the semi-annual meetings of the FMHSRN Advisory Committee (discussed next). All Network members worked under the supervision and coordination of the Project Director.

FMHSRN Advisory Committee. The following persons, each with extensive first-hand experience with mental health issues and services in western rural America, included:

Peter G. Beeson, Ph.D Director of Planning, Mental Health Institute Nebraska Dept. of Public Institutions Lincoln, NE	Sociologist and consultant
Elizabeth Breshears, M.A.Ed. Chief, Bureau of Alcohol and Drug Abuse Rehabilitation Division Dept. of Human Resources State of Nevada Carson City, NV	Expert on alcohol and drug abuse in rural and frontier counties
H. Edward Calahan, M.Ed Deputy Commissioner for Program Operations and Implementation Texas Dept. of Mental Health and Mental Retardation Austin, TX	Also President, National Assoc. for Rural Mental Health; ethnic minority (African American)
Sheila Cooper Alcalde, NM	Frontier-area resident, consumer, and Member, Univ. of NM Dept. of Psychiatry's Advisory Committee
Michael Enright, Ph.D. Private Practice Jackson, WY 83001	Also Chair of American Psychological Association Committee on Rural Health
Richard Lippincott, M.D. Assistant Secretary Office of Mental Health Louisiana Department of Health and Hospitals Baton Rouge, LA	Psychiatrist and former Mental Health Director, State of Oregon
Arthur L. McDonald, Ph.D. President, Dull Knife Memorial College Lame Deer, MT	Director, multi-region rural mental health training program; ethnic minority (Native American)
Carol Miller, M.P.H. Mountain Management Ojo Sarco, NM	Emergency Medical Technician; later Director, Frontier Education Program, NM
Michael Romero Board Member, Survivors and Consumers of Colorado Organized for Rights and Empower-ment (SCCORE) Alamosa, CO	Rural Colorado-based consumer, San Luis Valley Mental Health Center; ethnic minority (Hispanic)
Roger Schauer, M.D. Director Family Medicine Undergraduate Education Univ. of No. Dakota Medical School Grand Forks, ND	Family practitioner and physician educator
Mary Van Pelt Alamosa, CO	Rural Colorado consumer and Outreach Worker, San Luis Valley Mental Health Center

The FMHSRN Advisory Committee met approximately every four to six months, alternating between

in-person and teleconference meetings. At both types of meetings, Network members presented their drafts of knowledge syntheses on one or more topics for critique and refinement by Committee members. Plans for conducting focus-type study groups, offering workshops, making presentations, and disseminating FMHSRN products to key frontier and rural audiences were also discussed with and approved by this Committee.

Collaborating Organizations. The principal collaborating organization was the WICHE Mental Health Program, directed by Dr. McGuirk at the onset of the project and later by Dr. Harding, provided administrative assistance, particularly with the extensive conferencing and travel arrangements required by the contract's coordination and technical-assistance requirements. Additionally, WICHE staff played the major role in dissemination of written FMHSRN materials to our steadily expanding mailing list and to persons making one-time requests for specific knowledge-synthesis papers or Letters to the Field.

The National Association for Rural Mental Health (NARMH) played an important role in FMHSRN's first two years. Staff and officers of this organization of rural mental health professionals and administrators (1) helped to develop a frontier- and rural-oriented mailing list for disseminating project papers and *Letters*; (2) helped FMHSRN to locate and access "fugitive literature" (i.e., unpublished manuscripts or even anecdotal information) about frontier topics; and (3) published early summaries of FMHSRN work. NARMH also provided the venues for a number of FMHSRN technical assistance workshops, which were held at its Annual Meetings.

PROJECT PHASES, SPECIFIC TASKS AND TIMELINES, AND ADDITIONS/EXTENSIONS

I. Project Phases

Following project organization and recruitment of the FMSHRN Advisory Committee, the first substantive phase involved preparation of drafts of "knowledge-synthesis" papers covering specified frontier and rural MH topics (see below for a complete listing of topics and review of work done on each). These papers were based not only on published literature but also on "fugitive" literature, which was comprised of unpublished papers, technical reports, and data summaries from state and local rural mental health offices.

The second substantive phase of the project involved "field evaluations" of the draft knowledge-synthesis papers. In accordance with contract requirements, field evaluations were based on focus-type study groups. Such focus groups were generally conducted using caregivers, consumers and other residents of frontier-like communities. In preparation for conducting these groups, sociologist and focus-group expert Michael Moynihan, Ph.D was recruited to provide a training and rehearsal sessions for all Network members, and to provide ongoing review and evaluation of the groups. This phase was the most difficult to accomplish with only part-time Network staff. Hence, it occasioned an extension of the project from 9/29/97 to 9/29/98.

Nine such focus-type study groups were ultimately conducted by Network members or consultants. They included:

—2 on telemental health services (TMHS), one each with TMHS caregivers and consumers, both conducted by Dr. LaMendola;

—1 on recruitment, training, and retention of frontier MH caregivers, conducted by Dr. McGuirk;

—1 on cost-outcomes of frontier-area MH services and management strategies, conducted by Dr. Sorensen;

—1 on MH services delivered by rural-based primary medical caregivers, conducted by Dr. Geller;

—2 on frontier-area child/adolescent MH services, one with parents of child/adolescent

clients and another with agency caregivers, both conducted by Dr. Wagenfeld and Advisory Committee member Sheila Cooper;

—1 on frontier-area services to elderly consumers or family members, conducted by consultant James Stockdill and Dr. Ciarlo; and

-1 on frontier-area services to severely/persistently mentally ill consumers, conducted by Dr. Harding and Dr. Ciarlo.

Generally, the findings of these study groups were incorporated into the respective Network members' knowledge syntheses and/or *Letters to the Field*. Sometimes, however, the entire content of a *Letter* was based on the results of a focus-type group. This was the case for groups conducted by Drs. LaMendola, Geller, Harding, and Mr. Stockdill.

The third project phase, a major component of the technical assistance provided by the contract, was the dissemination of collected and field-evaluated information was actually begun early in the project and lasted throughout its duration, as Network members prepared presentations of their work at Annual Meetings of the National Association for Rural Mental Health (NARMH). Such presentations continued from 1995 through 1998. In addition, presentations were made to a wide range of other professional groups or associations, listed below under the Other Technical Assistance Activities section.

II. **Technical Assistance: Information Dissemination Activities-Mailing List, Website**

Following approval for dissemination by the CMHS Government Project Officer, knowledge-synthesis papers and *Letters to the Field* were duplicated and distributed to persons on the FMHSRN's official dissemination mailing list. This list, which started with approximately 100 persons and agencies involved with frontier and rural MH/SA services or administration, reached 167 by the project's end. The list was developed with assistance from CMHS-provided rosters of rural health and MH/SA agencies, meeting lists, and other documents; from NARMH; and from the WICHE Mental Health Program's lists of key western state MH officials. Additional names were added on a regular basis, and the entire list was reviewed and updated three times across the project's life (see Appendices A-1 and A-2).

Approximately half-way into the project's 02 year, FMHSRN staff member Pearlanne Zelarney developed a formal FMHSRN electronic "World Wide Website" or Internet-based "home page" to make project information readily available to any interested person equipped with the necessary computer equipment and Internet access. Based at the University and named "**frontier-mh**" (the full address is **www.du.edu/frontier-mh/**), the number of individuals accessing the site continued to increase over the life of the project The latest count of total accesses of the site since inception has reached 5,450.

This electronic information-dissemination system was not anticipated in the CMHS contract. Rather, it resulted from FMHSRN's attention to the steady development of worldwide telecommunication technology, and from the fortunate employment of Ms. Zelarney as FMHSRN's Editor. She brought to the project the extensive computer experience required to conceptualize, implement, and continue to add new material to the project's website. The chart shows the number of FMHSRN website accesses for each month, starting in May 1996. The reader should note, however, that the numerical scales on the successive charts change over the project years; hence, one should attend to the numerical scale as well as the length of the bars themselves to obtain an accurate impression of the growth in accesses with time.

The principal contents of the FMSHRN's website are the project's *Letters to the Field*. These became a primary Network product about halfway through the project. This change in emphasis resulted from requests, the strong positive reception that the *Letters* received from both mailing-list recipients and persons accessing them on the FMHSRN's website, and realization by manuscript reviewers (Dr. Ciarlo, Dr. Goldsmith, and Ms. Zelarney) that the longer papers were of interest to significantly fewer persons.

The website also exhibits several pages of materials designed to assist in determining the "frontier" status (according to population density criteria) of any county in the U.S., including Hawaii and Alaska. In addition, it contains TMHS-related materials (slides, graphs) used in the FMHSRN's **TMHS Institute**

(a 2-day training workshop, discussed below), including its summary and suggestions to state MH system officials for moving their service systems toward implementation of TMHS in frontier and rural areas.

III. **Other Technical Assistance Activities**

A. **Conference presentations**. As noted earlier, FMHSRN members made presentations of their knowledge synthesis work, *Letters* material, or focus group findings at four NARMH Annual Meetings-3 at the 1995 Spokane meeting, 3 at the 1996 Albuquerque meeting, 4 at the 1997 Grand Forks meeting, and 2 at the 1998 Portland, Maine meeting. Additional presentations were made at the following conferences:

-1996 Western States Decision Support Conference at Reno (Dr. Ciarlo on managed care and MH services outcome measurement). Also published in WICHE Westlink bulletin;

-1997 Australian Evaluation Society (Drs. Ciarlo and Goldsmith on needs assessment and services planning);

-1997 St. Joseph Hospital/Mental Health Center conference at Lewiston, ID (Dr. Wagenfeld on rural MH services);

-1998 American Public Health Association at Washington, DC (Dr. LaMendola on TMHS technology)

B. **Workshops and Institute**. FMSHRN made both intensive and extensive efforts to train frontier- and rural-oriented western state MH system officials in TMHS technology and MH/SA needs-assessment procedures, to promote implementation of these services supports for their states' rural residents. This involved:

-1997 FMHSRN Institute on Telemental Health Services (Drs. LaMendola, Ciarlo, and other TMHS expert consultants from various U.S. programs);

-Six half-day, on-site TMHS workshops for MH officials (Drs. LaMendola, Ciarlo, and three additional on-site consultants)

-Western States Decision Support Group needs assessment workshops:

1997 Breckinridge, CO (Dr. Ciarlo)
1998 Phoenix, AZ (Drs. Ciarlo, Holzer, Goldsmith)
1999 Albuquerque, NM (Drs. Holzer, Goldsmith)
1999 Boulder, CO (Dr. Ciarlo)

Initiation and completion of the series of six TMHS workshop series required more time than was anticipated when these workshops were proposed and approved by the CMHS Project Officer, primarily because of the difficulty that states had in assembling all their key staff (clinical, administrative, and fiscal). These delays required a further six-month extension of the project to 3/31/99.

C. **Technical assistance summary (conferences, workshops, and personal contacts).** The linked Table comprises the FMHSRN's final Technical Assistance (T.A.) Report for the duration of the project (October 1, 1994 to March 31, 1999), based on T.A. logs submitted by Network members for each quarter. Each Network member's total hours spent in T.A. activities of all types are listed, along with the numbers of different people contacted in those sessions. The Table also shows the total of the multiplication (product) of the time spent by the Network member and the number of person(s) receiving the T.A. for that time period, or total person-hours of T.A. completed. A separate entry for "Consultant Experts" shows the totals for all the consultants paid by FMHSRN to assist, educate, or train frontier and rural audiences in a MH-relevant technology (primarily in TMHS workshops and Institute). The second page of the Table summarizes the results, reproduced here for convenience:

Total number of persons contacted	4,568
Total number of persons contacted (since Oct. 1997 only)	1,618
Total unduplicated persons contacted (since Oct. 1997 only)	893
Total number of Network member/consultant hours spent in T.A	698
Total number of T.A. person-hours completed	7,331.5

The total number of T.A. person-hours of T.A. provided (or T.A. contact-hours) is very substantial indeed, despite the fact that Dr. Ciarlo was the only Network member working solely on this project. All others had full-time jobs elsewhere, and were thus limited in their ability to provide T.A. to recipients.

A listing of the specific persons and agencies that were identifiable from the T.A. logs submitted by project personnel can be found in Appendix B.

AUTHORS, TASKS, AND PRODUCTS FOR FMHSRN'S TOPICS IN FRONTIER MENTAL HEALTH

I. Defining and Characterizing "Frontier", "Rural", and "non-Rural" Areas of the U.S.

Implicit, although not specifically listed in the CMHS contract, was work on explicating the term "frontier". Such efforts began immediately as the Network identified prior work that might have a specific "frontier" or "rural" focus. Particularly problematic was the finding that much previous work has defined "rural" as non-metropolitan counties of the U.S., even when such counties contain "cities" with up to 50,000 people, and/or have more Census-defined "urban" residents than "rural" ones). Efforts to better differentiate types of geographic areas-especially low-density "frontier" areas-continued throughout the project, including work by Dr. Ciarlo and Research Associate Pearlanne Zelarney on increasing the precision of "frontier" and "rural" definitions (see *Letter to the Field #2)*. In one such effort we combined several readily available geographic variables-**population density**, **percentage of "rural" residents** (per U.S. Census definition), and county **population size** into an index of "rurality" not heretofore available. Also, at a NARMH Annual Meeting workshop in Grand Forks, ND this "frontier" definition and characterization issue was brought directly to the working rural clinicians, administrators, and advocates attending. They affirmed the desirability-and indeed, importance-of clearly defining and differentiating "frontier" from other types of rural and urban areas for clinical, scientific, and political purposes; hence, FMHSRN's work on this topic continued and was disseminated in *Letter to the Field #22*.

To better communicate the types, locations, and specific nature of frontier and rural America, FMHSRN also contracted with geographer Douglas Clark to generate U.S. county-level maps of "rurality" and other important variables, including quantitative estimates of needs for mental health (MH) and substance abuse (SA) services (discussed further below). These maps supersede in both complexity and detail a 1990 map of "frontier" areas based on low population density that was disseminated widely by the Bureau of the Census. Selected maps from this original-production series are shown in Appendix D; they have been shared extensively with rural audiences in FMSHRN presentations and used in many of our workshops. One or more articles describing the conceptualization and construction of these maps are currently being prepared by Drs. Clark and Ciarlo for submission to appropriate scientific journals.

The FMHSRN's effort on this frontier-definition topic culminated in a major contribution to **typological differentiation** of frontier areas by Drs. Goldsmith, Holzer, et al., using the sophisticated "Grade of Membership" statistical analysis procedure to classify U.S. counties in terms of key "frontier"-related variables. Their work resulted in clear specification of four primary "pure types" of frontier counties, in order of per cent of U.S. counties in each type that are either "sparsely" populated (less than 7 persons per square mile) or "less densely" populated (between 7 and 15 persons):

Type 2-Western Farmers, Ranchers, Miners (98%)
Type 1-Northern Great Plains Farming Areas (74%)

Type 5-Low-Density Hispanic-Concentration Areas (64%)
Type 10-Retired Farmers (58%)

Other types that are not quite as strongly characterized by very low population density were also defined, should greater comprehensiveness in covering most or all U.S. counties be required for a given purpose. This original research has appeared first in FMHSRN's *Letter to the Field #18*, with the expectation that it will be given more extensive treatment in formal scientific publications.

II. Determination and Surveillance of Need and Demand for Mental Health Services in Frontier America

A. The contract-specified topic of determining **need for services** in frontier areas was addressed by Drs. Ciarlo, Wackwitz, Holzer, and Goldsmith. A draft knowledge-synthesis paper on MH/SA service needs in frontier and rural America was recently completed by Dr. Ciarlo (see Appendix E, *Assessing Need for Mental Health Services in Frontier America*). Here the available comparisons between frontier, rural, and more urban areas were reviewed, and procedures for making quantitative estimates of various categories of need for services (diagnosable disorders, severe/ persistent mental illnesses, etc.) were presented in some detail for use by state and local MH systems for purposes of planning, implementing, and monitoring the adequacy of MH services in these areas.

A synthesis of knowledge about the need for mental health services was presented by Dr. Ciarlo at the 1995 and 1998 NARMH Annual Meetings, and by him and Dr. Goldsmith at the 1997 NARMH meeting. Special county-level maps of the U.S. showing estimated levels of different types of need for services in various regions were also developed by Drs. Ciarlo and Clark for presentation in Network workshops. In addition, the CMHS-supported **Western States Decision Support Conference** (coordinated by Dr. Charles McGee of the WICHE Mental Health Program) invited Drs. Ciarlo, Holzer, and Goldsmith to present a full-day FMHSRN-supported workshop on needs assessment for its western-state MH systems staff constituents in Phoenix, AZ in January, 1998. A similar half-day workshop was presented at the Australian Evaluation Society's International Meeting ins September, 1997 attended by representatives of mental health-related service systems from many countries. These workshops, along with a preliminary presentation in Breckinridge, CO in July, 1997 and two follow-up presentations to this group by the above Network members in Phoenix and in Boulder, CO in 1999 has represented one of FMHSRN's major technical-assistance focus and commitment during this project's tenure.

B. The related topic of **demand for services** in frontier areas was addressed by Dr. Wackwitz prior to his departure from the project. He presented his work at the 1995 NARMH Annual Meeting (including publishing it in their meeting *Proceedings*), and ultimately generated *Letter to the Field #15*. Wackwitz concluded that demand could-and often did-differ substantially from need, depending upon the economic structure in the locality (including the economic circumstances of the person in need) and the availability of services. He then showed how service demand (indexed here as emergency service contacts) by "rural" residents was consistently lower than among "urbanized" residents, regardless of the type and size of Colorado county-ranging from frontier to urban-in which the service users resided.

Subsequently Dr. Holzer, re-casting the issue of need versus demand in terms of need with or without service utilization, examined these variables in both metropolitan and non-metropolitan areas of the U.S., as reflected in data from the *Mental Health Supplement* to the *1989 National Health Interview Survey (NHIS)*. They found that while need (in terms of self-reported diagnoses) was lower in the most "rural" areas (nonmetro farms) than it was in central cities, it was still not quite as low as need in noncentral cities (termed "exurbs" in a similar needs survey analysis by Ciarlo and Tweed in 1992). But need plus service utilization was lowest-and hence, "unmet need" highest-in these nonmetro farm areas of the U.S. (see *Letter to the Field #20*).

III. Determination and Surveillance of Availability and Access to Services

A. This task of the contract was addressed primarily by Mr. Mohatt and Drs. Holzer, Goldsmith, and Ciarlo with respect to **free-standing** (non-medically based) MH services. It was no surprise to learn that

frontier rural areas had fewer MH/SA services available to them than other area types. However, the degree of inequity of availability, and consequently access to services, was surprising even to Network members. As Mohatt noted in his *Letter to the Field #4*, over 60% of rural areas, including many frontier areas, have been federally designated as *Mental Health Professional Shortage Areas*. Further, most frontier-area residents live long distances away from the offices, clinics, or hospitals of those MH providers found in frontier and rural counties, depriving them of adequate **geographic** access. In addition, they have disproportionate populations of uninsured persons, thus limiting **financial** access. Mohatt emphasized that the findings from his evaluation of the literature and from personal communications with rural persons indicated that this situation has persisted for decades.

The lack of service availability was confirmed by FMHSRN in its own analyses of the locations of MH and related health professional providers in U.S. counties, reported in the knowledge-synthesis paper by Holzer and Goldsmith entitled *Availability of Health and Mental Health Providers by Population Density and Urban-Rural County Type* and in their *Letter to the Field #11* (the federal Area Resource Files and Census Bureau's Public Use Microdata Sample were the data sources for these analyses). For example, in 1994 only 0.8% of "very frontier" counties (those with less than 2 persons per square mile) had any psychiatrists, and just 9.8% of "frontier" counties (with 2 to 7 persons per square mile) had any psychiatrists. In contrast, about 31% of counties with population densities between 15 and 99 persons per square mile had at least one psychiatrist, and 91% of counties with densities of 100 or more persons per square mile had such MH service providers. Figures for psychologists and social workers paralleled those for psychiatrists, but the percentage ranges were not as extreme across the different density categories (13.3 to 79.5% for psychologists, and 18.5 to 73.2% for social workers).

Mohatt believes that there is some hope in alleviating the availability and access deficiencies for frontier residents in the integration of MH and medical care in rural areas, and perhaps with certain managed medical and behavioral healthcare situations.

B. Dr. Geller and several of his colleagues addressed the issue of availability and access of MH care through **medically-based** facilities and providers, and particularly through **primary care physicians** in frontier and rural areas. His knowledge-synthesis paper, entitled *Frontier Mental Health Care and the Integral Role of the Primary Care Physician*, reviewed a large number of publications on availability, access, and utilization of medically-based MH services. Based on these papers, he concluded:

> "The combination of fewer mental health providers and inpatient facilities, and low utilization of traditional mental health services due to social factors and rural poverty, points to a scenario where much of the burden of mental health care provision is placed on primary care physicians."

A summary of this information is available in *Letter to the Field #5*.

This scenario was further documented by Geller when he conducted a focus group with primary caregivers in a western-state frontier area. As noted in his *Letter to the Field #10*, understaffing exists for even medical personnel and facilities in frontier and rural areas, although the difference between rural and urban areas is not quite as large as for specialty MH caregivers. Moreover, medical caregivers often fail to refer appropriate cases to MH professionals even when they cannot offer proper treatment themselves, and their treatment is often drug therapy only. Significantly, Geller's focus group findings indicate that at least in this frontier region, primary care physicians would prefer to have psychiatric colleagues handle the more serious MH cases they encounter. However, they feel that the psychiatrists available to them (which are few enough in the closest large towns or small cities) fail to assess many cases adequately, do not understand the client's community situation and hence fail to plan for appropriate in-community care, and fail to keep the referring physician informed about what is happening with the case. Under such conditions, primary caregivers often struggle to provide the best care they can with whatever MH treatment skills they have acquired over time (which are often impressive). When they do request assistance from MH caregivers with their cases, it is more often more local "mid-level" MH workers- social workers and caseworkers-to whom they turn, and these appear to provide much of the MH intervention that the primary caregivers desire.

Geller's paper and *Letters* also discuss MH training for primary care doctors. His suggestions regarding better training of this nature are covered in the next section.

IV. **Mental Health Interventions (including Costs and Outcomes)**

This task required review of literature on rural and frontier-area interventions, taking into account treatment modalities, provider configurations, and service costs/outcomes. To facilitate completion, this large task was divided into subtopics and distributed among Network members (Drs. Wagenfeld, Harding, Sorensen, and Geller). A related subtopic-training for staff providing such services-overlaps with the separately specified task of reviewing provider recruitment, training, and retention issues, and is addressed in a succeeding section.

A. **Service delivery models and special populations**. Dr. Wagenfeld, Dr. Harding, and Network consultant James Stockdill were assigned this topic. Because of his extensive prior work in this area, Dr. Wagenfeld had the most responsibility for the literature review and integrations. His knowledge-synthesis paper entitled *Mental Health Services in Frontier Areas: Models of Service Delivery and Special Populations* included not only the available literature (sparse) but also first-hand communications from a wide range of MH administrators and caregivers from existing rural and frontier areas. Extreme diversity in services organization is the rule, rather than the exception. In some states, MH services were integrated with regional medical facilities; others were delivered through the closest CMHCs (which had not significantly penetrated frontier areas). In Alaska, front-line services tended to be delivered by indigenous paraprofessionals with minimal training, while first-line backup services are located at small regional hospitals; "tertiary care" MH facilities are found only in urban areas. Wagenfeld also described several frontier-area MH programs in western states (TX, NV, UT, NE, NM, ND, and ID), finding more differences in size, staff, and orientation than similarities.

For example, services available in rural areas for the **severely mentally ill (SMI)** were found to be highly varied. They ranged from clubhouse models to formal "assertive community treatment" (ACT) programs and the latter usually provided the inpatient services needed for this frontier-resident group. Two of Wagenfeld's *Letters to the Field* (*#7, #8*) summarize the principal findings of his knowledge-synthesis paper with respect to SMI services. In addition, a focus group exploring available services with SMI consumers from a small frontier-area town in a western state was conducted by Dr. Harding. Her *Letter to the Field #23* outlines a fairly common "package" of state hospitalization, psychiatrist's assessments in a not-too-distant small-city Mental Health Center, van-based Center outreach services to small towns in that region (including running of group sessions by caseworkers, often themselves former consumers), and local community medical clinic-based emergency and medication-check services.

In his knowledge-synthesis paper, Wagenfeld also reviewed and evaluated frontier- and rural-area mental health services for **children and adolescents**. The services review involved those for mental disorder, substance abuse, developmental disabilities, and child abuse/neglect. Relevant rural examples included programs from VA, OR, AZ, FL, NY, WA, MD, IN, MI, WI, NC. From frontier areas Wagenfeld reviewed programs in AZ, ND, ID, and AK. Western "boomtown"-related drinking problems among adolescents were being addressed by a tri-state program in rural parts of CA, AZ, and NV. Based on his knowledge synthesis papers, Wagenfeld also produced two *Letters to the Field* (*#16, #17*) dealing specifically with MH/SA services to children and adolescents. The latter describes the findings of two focus groups conducted with MH caregivers and parents, respectively, of children and adolescents from four frontier counties of a southwestern state, all of which had been designated as federal Health Professional Shortage Areas. A single mental health clinic served the four counties. The clinic provided psychiatric coverage, an assertive community treatment team (ACT), and case managers. The state hospital was 7 hours away by auto. Significantly, the "shortage" theme was again all-too-prevalent in the comments of both caregivers and parents, who listed such frequently-invoked alternative sources of help as churches, medical caregivers, jail and probation officers, "curanderas" for Hispanic youth, and their own families and friends. Few, if any, parents from the more remote county locations expressed satisfaction with available services; only those living fairly near the four-county agency expressed more satisfaction. For focus group respondents, a common complaint was the lack of knowledgeable provide. staff.

Mental health problems of and services for **elderly** frontier- and rural-area residents were evaluated by Dr. Wagenfeld and Mr. Stockdill. The latter also conducted a focus group with some elderly MH consumers and some family members from a small town in a western state (see *Letter to the Field #21*). A prominent source of difficulty for such persons with MH/SA problems was the frequent comorbidity of medical/physical disorders or disabilities. From Stockdill's focus group findings, it was clear that this group of consumers and caregivers valued highly both the general-medical physician or nurse who was knowledgeable about MH problems, and the local clinic MH counselor who would provide counsel and support - especially those who would seek them out in their homes to monitor their physical and social functioning. They felt that far more training of medical professionals in MH problems and treatment skills was needed in their state, given that travel to distant cities-particularly in the winter-sharply limited their access to psychiatrists and other MH specialty caregivers. In addition, they felt that elderly consumers themselves needed more education on coping with their own MH problems, and in particular with how to deal with the increasingly complex details of obtaining services through Medicare, state programs for elderly health, and local health support systems. At a more general level, a few rural states and Canada had mounted a few special programs for the MH elderly, including IL, IA, KS, NC, VA, and MS (see Wagenfeld's knowledge-synthesis paper).

B. **Frontier and rural MH service "strategies"**. The task of describing "types of interventions" appropriate for frontier areas was assumed by Geller, et al. They re-cast the thrust of this knowledge-synthesis paper as one of describing *Frontier Mental Health Strategies: Integrating, Reaching Out, Building Up, and Connecting*. They identified four common intervention strategies, under which many diverse interventions, services, and/or treatments could fall:

Integrating	co-locating, coupling, integrating medical and mental health resources for frontier areas
Reaching Out	sending MH professionals out to serve frontier residents in their own or nearby communities
Building Up	applying resources to build up local frontier capacity to respond to community treatment needs
Connecting	linking frontier areas to treatment resources via telecommunications or other means

With respect to "integrating", Geller also added comments on the topic of managed care, which links MH and medical resources in rural and frontier areas. Discussed in greater depth below, Geller noted that managed care organizations were still rare in frontier areas; however, under state sponsorship, it was likely that additional integration of this type would be seen in the near future. The second strategy, "reaching out", is perhaps best reflected in the "circuit rider" concept, in which a MH professional drives or flies an airplane to a series of remote, isolated communities and provides a service (counseling, medication review) that would otherwise be unavailable. The third, "building up", involves recruiting and training "natural helpers", indigenous local healers, and paraprofessionals from the frontier or nearby areas to provide services that would otherwise be unavailable. Such "building up" could also involve education activities, development of support groups, and implementation of "self-help" programs or resources (including new on-line Internet services). The fourth, "connecting", involves primarily telemedicine, which is treated more extensively in a section below.

Each of these strategies is a viable one, although the most appropriate may depend upon local circumstances; for example, the current or future availability of nearby medical services is clearly essential to the "integration" strategy. Geller et al. discuss this strategy primarily in terms of the possible advent of managed behavioral healthcare to the state or region in which the frontier area(s) may be located.

C. **Determining and evaluating frontier-program costs and outcomes**. This topic was assigned to

perhaps the nation's top expert in MH services cost-accounting, Dr. James Sorensen. After drafting a single knowledge-synthesis paper covering the subtopics he judged essential to this task, he decided to split the content into three separate *Letters to the Field* (#12, #13, and #14) that could be read and understood mor easily. In the first of these, Sorensen tackles the essentials of cost analysis and reporting that must be applied in any service program to generate "unit-of-service" costs. These cost figures would then available to relate to appropriate measures of services outcomes, the topic of his second *Letter*. In this piece, Sorensen clearly differentiates a number of domains of program performance that are often confused by MH program administrators and clinicians-measures of access, of appropriateness, of traditional outcomes, and of a newer measure-prevention. With respect to outcome measures, Sorensen draws on previous work by Ciarlo and others, outlining the steps needed to obtain outcome data suitable to matching to costs. Finally, he links the two in "cost-outcome matrices" that permit drawing of specific inferences regarding the desirability of continuing a particular service or program, and/or comparing two alternative services. The FMHSRN did not find any examples of this type of cost-outcome analysis in the published frontier and rural MH services literature; clearly, the capacity to conceptualize such analyses and the resources to accomplish them appear to be at least as scarce as the frontier-area services and programs themselves. It is hoped that the paper and letters developed by Sorensen will encourage the application of such cost-outcome analyses to alternative frontier-area MH/SA services and programs.

In his *Letter to the Field #14*, Sorensen addresses the topic of specific management strategies that would be helpful to designing, funding, and operating frontier-area MH programs. One such concept was discussed at length in a focus group of senior MH executives and administrators conducted by Sorensen. This was the "medical cost-offset effect", a well-established research finding that delivery of mental health services to a general health-clinic population can substantially reduce medical utilization and related costs. Indeed these MH services can often pay for themselves in an integrated or "partnership" medical/MH setting (including managed care systems by reducing usage of medical services). Recognizing this effect may help bring sorely needed MH services to the frontier, but may also reduce the "stigma" resulting from the use of MH services in a small community. Another concept discussed in this *Letter* is that of "bureaucratic inertia", an unwillingness to change in MH operations even if the change would be beneficial to consumers and providers. He also presents ideas for facilitating the transition of hospitalized consumers back into their frontier communities. This task is made difficult because of the usual lack of support networks for such persons in small, isolated frontier areas. Underlying many of these management issues is Sorensen's notion that MH administrators need timely, short-horizon information about their programs to make effective decisions; several examples are offered.

V. **Mental Health Providers (including General Medical-Sector Professionals).**

A. **Recruiting, training, and retention of frontier-area MH providers**. This contract topic was addressed by primarily Drs. McGuirk and Keller, in their knowledge synthesis entitled *Providers of Mental Health Services to People in Frontier Areas: Strategies for Work Force Development*. They note that a common picture of effective rural MH caregiver roles seems to be emerging, which involves being a "generalist" with a broad base of skills, comfortable with rural values, accepting of rural realities such as inconvenient distances and weather, and maintaining a practical outlook. However, they argue that even more appropriate to isolated, low-resource "frontier" areas is skill in brokering behaviorally-oriented services in the nearest available communities. McGuirk focuses on the "isolation" characteristic of the frontier, giving several examples of how consumers experience it in different domains and how providers must deal with in specific ways.

The authors next review the available literature on training of different types of professionals for rural service. An interesting example is the model curriculum of the American Psychological Association's Office of Rural Health, which stresses training for the generalist role, personal values clarification, networking and communication skills, and training in rural service delivery. Other professions have developed similar though seemingly less comprehensive curricula. Recruitment issues focus on clear specification of the type of person desired, "fit" of person to the job being filled, and extensive and informative contacts between recruiter and candidate(s). Retention issues focus on workload, adequacy of compensation, continuing education opportunities, and prevention of "burnout". Successful recruitment and retention of persons with bilingual and bicultural skills is even more difficult. Finally,

computer, networking, and telecommunication skills are mentioned as important resources to support frontier MH staff.

B. **MH training for primary care physicians**. Geller's knowledge-synthesis paper and *Letter to the Field #5* review six modes or "models" of providing training for primary care physicians and non-physician providers, ranging from consultation by MH caregivers with no formal education included, to postgraduate specialization in MH settings for up to two years. Each mode was useful under specific circumstances, but key factors affecting workability of each were level of funding and specialty training requirements. His examination of the literature suggests that formal medical-school training needs substantial improvement if primary caregivers are expected to provide appropriate MH services. After formal medical education is completed, special programs such as NIMH's Depression Awareness, Recognition, and Treatment Program (DART) were judged helpful, as was the development of the *Clinical Practice Guidelines for Depression in Primary Care* by the federal Agency for Health Care Policy and Research . Continuing education programs in MH were also considered important by participants in Geller's frontier-caregivers focus group.

VI. **Integrated Communication Systems (including especially Telemental Health Services)**

The CMHS contract called for review of information on "systems that permit social interaction (networking)" between frontier MH administrators, providers, their clients, psychiatric specialists, and primary care physicians. While we know of no systems designed to interconnect all five groups, the rapidly expanding domain of telemedicine-oriented systems can implement delivery of services between caregivers and their clients, as well as allowing teleconferencing between any desired audience "mix" of MH administrators, specialists/ consultants, and caregivers. The FMSHRN was extremely fortunate in attracting Dr. LaMendola, an expert in both design of and consultation regarding telecommunication systems. The Network quickly focused on what appeared to be most important for frontier areas at this stage-namely, the delivery of MH services to remotely located rural residents via two-way interactive video. This included facilitating the communication of hospitalized clients with their in-community caregivers and their family members. We adopted the term **telemental health services (TMHS)** to differentiate them from myriad other applications of telecommunications labeled as telemedicine, telehealth, teleradiology, distance education, interactive entertainment, and even telepsychiatry (a label limited to only one MH profession).

LaMendola's work began with drafting of his knowledge-synthesis paper entitled *Telemental Health Services in U.S. Frontier Areas*. It documented the emergence of TMHS in at least 30 different frontier-area locations. Services provided included primarily interactive video consultations, assessments, and medication reviews. Important examples included the *RODEONET* system in eastern Oregon and two systems in Montana, whose directors were subsequently utilized as trainers of western-state MH system staff in various aspects of TMHS. The paper continued with reviews of national telemedicine policies, including funding histories, current opportunities, and barriers to implementation of TMHS in frontier and rural areas. It clearly linked the development of TMHS technology to expanding computer networks, including those being developed in the western states under the aegis of both federal and state programs. LaMendola began here the necessary explanations of TMHS technology, including equipment and interconnection systems, that would be required for a state to begin giving serious consideration to supplementing its scarce MH personnel with TMHS connections to its remote rural areas. Shortly thereafter, he condensed the essentials of the knowledge-synthesis paper into his *Letter to the Field #3*. This letter was widely distributed to frontier and rural audiences via FMHSRN's mailing list and its newly developed website. He later conducted two focus groups on TMHS in a frontier state, the first with active providers of TMHS and the second with persons who had been consumers of TMHS for six months or more. The findings of these groups, which strongly supported the continued expansion of TMHS services to frontier and rural areas, also provided clear expositions of which aspects of TMHS were disliked and/or needed revision. For example, consumers do not like to be in large, conference-type rooms during two-way interaction with a psychiatrist; small-office settings are strongly preferred. Also noteworthy was that these consumers did not want to receive services via TMHS from their homes because they felt that would deprive them of privacy with respect to other family members. Both the perceived advantages and disadvantages of TMHS were summarized by Dr. LaMendola in his *Letter to the Field #19*.

Increasing interest by MH officials of states with significant frontier populations encouraged FMHSRN to plan a two-day intensive technical-assistance **"TMHS Institute"** in Denver. It featured Dr. LaMendola and other TMHS consultants and included lectures and explanations, together with live two- and three-way demonstrations of TMHS (videotaped for later use) in collaboration with currently operating programs (*Eastern Montana Telemedicine Network* and *Southwestern Virginia Telepsychiatry Project/APPALINK*). Sixteen state Mental Health Authority representatives from 11 western states (AZ, ID, CO, HI, OR, ND, NM, SD, WA, WY, UT) attended, receiving training in TMHS techniques, costs, opportunities, and implementation strategies from 20-plus faculty currently working in the TMHS arena. Primary focus of the Institute was on how states can implement current TMHS technology to supplement the delivery of mental health and substance abuse services to residents of their isolated, "frontier" rural areas.

The positive response of these states to the Institute led to FMHSRN, in consultation with the Government Project Officer, planning a series of six on-site, half-day intensive **TMHS workshops,** designed to help states implement TMHS services for their frontier residents. The first of these was conducted from the University of Colorado's Health Sciences Center in Denver; it was televised (with audience-interactive capability) to NM state MH system personnel and University of New Mexico psychiatry staff assembled on the medical school campus in Albuquerque. Both this and the second workshop, held at Carson City, NV, featured videotapes of the Denver **Institute's** interactive TMHS demonstrations, plus Dr. LaMendola's "live" presentations on the political and fiscal issues to be dealt with, the equipment and interconnection capacities required, and the specific steps necessary to initiate TMHS in that state. These two workshop presentations were themselves videotaped for use in subsequent on-site workshops for ID, ND, UT, and WY, where Catherine Britain and Thelma McClosky Armstrong, directors of the *RODEONET* and *EMTN* telemedicine programs, substituted for Dr. LaMendola as on-site experts. At least two of these (ID and ND) resulted in the formation of state committees to pursue the planning and implementation of TMHS in their rural areas. This intensive, long-range education and training effort thus became the most comprehensive and extensive of FMHSRN's technical-assistance activities aimed at improving the delivery of MH services in frontier areas.

VII. **Managed Behavioral Healthcare in Frontier and Rural America**

The managed care topic was emphasized by FMHSRN's Government Project Officer (Dr. Ronald Manderscheid). Accordingly, this literature review and analysis of managed behavioral healthcare was accepted initially by Dr. McGuirk, who had been working on the topic for the western states in his role as Director of WICHE's Mental Health Program. After he left for a new job, the topic was reassigned primarily to Dr. Keller, who had begun reviewing the managed care literature and the steps taken toward managed behavioral healthcare by Colorado's state MH system. In addition, FMHSRN contracted with consultant Marjorie Ross, currently assisting large-scale MCOs to implement both urban and rural behavioral healthcare programs, to review FMSHRN products on this topic and provide additional guidance on paper drafts. Further, responding to the request by Dr. Manderscheid, Dr. Ciarlo and Ms. Zelarney also began collecting relevant literature and passing it on to other Network members for incorporation into their own knowledge-synthesis efforts. These compilations tended to emphasize the swiftly emerging "downside" of managed behavioral healthcare at that time, with both professional journals and public media focusing on issues of reduction of the number and length of services paid for by managed care organizations (MCOs) in the interests of maximizing profits.

Dr. Keller's knowledge-synthesis paper, entitled *Managed Behavioral Healthcare in the Frontier: Will the Frontier Manage and How?,* presents a largely analytic perspective on managed behavioral healthcare, presenting detailed explanations of the types of risks assumed by different stakeholders (consumers, clinicians, MCOs, employers or legislatures, etc.) under different models of service organization (unmanaged, capitated, horizontal integration, vertical integration, etc.). It goes on to describe the principal differences in financial incentives inherent in the various systems (including the older "fee for service" model) and the impacts of these upon individuals, the community, and healthcare organizations. Generally, Keller concludes that MCOs have positive cost-containment attributes that counteract the cost-escalation features of fee-for-service systems. He also argues that greater costs

accountability will ultimately improve service and program quality over what is currently being achieved. He also considers obstacles to implementation of managed care systems in frontier areas. These include the much lower number of "covered lives" available to limit the risk of adverse claims experience, and the absence of sufficient caregivers to offer opportunities for reducing the level of reimbursements for specific services in return for directing MCO subscribers to the MCO's caregivers instead of competitors.

Both Dr. Keller's paper and his shorter *Letter to the Field #9*, as well as Dr. Ciarlo's comments on managed behavioral healthcare (the latter presented at a 1996 Western States Decision Support Conference in Reno, NV), included suggestions to state MH systems with respect to their drafting of requests for proposals for statewide (including rural and frontier) MH service provision to which large, profit-oriented managed care companies could be expected to respond. These included such recommendations as:

-specifying limits to profits and requiring reinvestment of excess profits into service programs;

-requiring the separation of services and accounting data for urban and rural/frontier areas, so that the volume of services (especially relative to estimated needs for service) provided to these areas may be directly monitored;

-requiring increased use of outcome measures (such as the Mental Health Statistics Improvement Program (MHSIP) "Consumer-Oriented Mental Health Report Card) for monitoring the quality of services delivered by an MCO's system;

-requiring the inclusion of clinical personnel in decision-making with respect to authorization or denial of specific MH services to individual cases; and

-requiring the implementation of grievance systems and complaint procedures to assure that appropriate care is provided.

LIST OF APPENDICES

A1 - Final Mailing List (Alphabetized) - NOT AVAILABLE ON-LINE
A2 - Final Mailing List (in Zip Code order) - NOT AVAILABLE ON-LINE

B - Final Technical-Assistance Report of Recipients, October 1994 through March 1999

C - Letters to the Field:

1. New Rural Mental Health Services Resource Center Being Established-FMHSRN
2. Focusing on "Frontier": Isolated Rural America-James A. Ciarlo, John H. Wackwitz, Morton O. Wagenfeld, Dennis F. Mohatt, and Pearlanne Zelarney
3. Telemental Health Services in U.S. Frontier Areas-Walter F. LaMendola
4. Access to Mental Health Services in Frontier America-Dennis Mohatt
5. The Role of Rural Primary Care Physicians in the Provision of Mental Health Services-Jack M. Geller and Kyle Muus
6. Frontier Mental Health Strategies: Integrating, Reaching Out, Building Up, and Connecting-Jack M. Geller, Peter Beeson, and Roy Rodenheiser
7. Delivering Mental Health Services to the Seriously Mentally Ill in Frontier Areas: Evidence from Five States-Morton O. Wagenfeld
8. General Models for Delivering Mental Health Services to the Seriously Mentally Ill in Frontier Areas-Morton O. Wagenfeld
9. Managed Behavioral Health Care in the Frontier-Andrew Keller
10. The Role of Rural Primary Care Providers in the Provision of Mental Health Services: Voices from the Plains-Jack M. Geller
11. The Availability of Health and Mental Health Providers by Population

Density-Charles E. Holzer, Harold F. Goldsmith, and James A. Ciarlo
12. Cost Dynamics of Frontier Mental Health Services-James E. Sorensen
13. Client Outcomes and Costs in Frontier Mental Health Organizations-James E. Sorensen
14. Effective Management Strategies for Frontier Mental Health Organizations-James E. Sorensen
15. Surveillance of Demand for Mental Health Services in Frontier Areas-John H. Wackwitz
16. Organization and Delivery of Mental Health Services to Adolescents and Children with Persistent and Serious Mental Illness in Frontier Areas-Morton O. Wagenfeld
17. Delivering Mental Health Services to Children and Adolescents with Serious Mental Illness in Frontier Areas: Parent and Provider Views-Sheila Cooper and Morton O. Wagenfeld
18. Low Density Counties with Different Types of Sociodemographic, Economic, and Health/Mental Health Characteristics-Harold F. Goldsmith, Charles E. Holzer, Max A. Woodbury, and James A. Ciarlo
19. Telemental Health Services in Frontier Areas: Provider and Consumer Perspectives-Walter F. LaMendola
20. Mental Health Service Utilization in Rural and Non-Rural Areas-Charles E. Holzer and Harold F. Goldsmith
21. Aging, Mental Illness, and the Frontier-James W. Stockdill and James A. Ciarlo
22. Defining and Describing Frontier Areas in the United States: An Update-Pearlanne Zelarney and James A. Ciarlo
23. Problems Faced by Consumers of Mental Health Services Out in a Frontier County-Courtenay M. Harding, Mary Van Pelt, and James A. Ciarlo
24. Need for Mental Health Services in Frontier America-James A. Ciarlo (in preparation)

D1 - FMHSRN-Developed Maps:

-Persons per Square Mile in the U.S. During 1990
-Rural Composite Index Scores for the U.S. During 1990 (including legend)
-States with Frontier Populations (Table)

E - Knowledge-Synthesis Papers:

1. Walter F. LaMendola, "Telemental Health Services in U.S. Frontier Areas"
2. Frank D. McGuirk, Andrew B. Keller, and Mary Obata, "Providers of Mental Health Services to People in Frontier Areas: Strategies for Work Force Development"
3. Morton O. Wagenfeld, "Mental Health Services in Frontier Areas: Models of Service Delivery and Special Populations"
4. Jack M. Geller and Kyle Muus, "Frontier Mental Health Care and the Integral Role of the Primary Care Physician"
5. Jack M. Geller, Peter Beeson, and Roy Rodenheiser, "Frontier Mental Health Strategies: Integrating, Reaching Out, Building Up, and Connecting"
6. Andrew Keller, "Managed Behavioral Health Care in the Frontier: Will the Frontier Manage and How?"
7. Charles E. Holzer and Harold F. Goldsmith, "The Availability of Health and Mental Health Providers by Population Density and Urban-Rural County Type"
8. James A. Ciarlo, "Assessing Need for Mental Health Services in Frontier America"

LIST AND CONTENTS OF TELEMENTAL HEALTH SERVICES TRAINING VIDEOTAPES

1. Telemental Health Services Institute Proceedings (November 1997):
-TMHS Overview and Outlook, Dena Puskin, Office of Rural Health Policy

-Simulated TMHS Psychiatric/Social Work Assessment (conducted between University of Colorado Health Sciences Center Telemedicine Facility and Eastern Montana Telemedicine Network)

NOTE: Because of permission restrictions imposed by participants, use of this section of the videotape is restricted to TMHS training uses approved by the University of Denver.

-Three-way Interactive Discussion of Appalink Hospital-Community Demonstration of Medication Follow-Up Session

NOTE: For client confidentiality reasons, the demonstration itself was not videotaped.

2. Telemental Health Services Two-way Interactive Workshop (May 1998):
(Televideo presentation from University of Colorado Health Sciences Center Telemedicine Facility to Department of Psychiatry, University of New Mexico Medical School)

-James Ciarlo, Frontier-area MH Needs

-Walter F. LaMendola, TMHS Technology and Frontier-Area Applications

3. Workshop on Telemental Health Services, State of Nevada Mental Health System (June 1998):

-Walter F. LaMendola, TMHS Technology, Frontier-Area Applications, and System Implementation Issues and Discussion

4. Nevada Workshop Introduction and Commentaries on Frontier-Area TMHS Technology and Service Simulation (June 1998):

-James A. Ciarlo, Introduction and Frontier Needs for MH Services

-Walter F. LaMendola, Commentaries on TMHS Equipment, Connections, and UCHSC/EMTN Simulated Psychiatric/Social Work Assessment of Nov. 1997.

NOTE: This videotaped section of the Nevada workshop employs the simulated assessment segment of Tape #1 above.

FRONTIER
Mental Health Services Resource Network
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Write us with comments on our site
Courtenay M. Harding, Ph.D., Project Director
This project is supported by the Center for Mental Health Services, Substance Abuse and Mental Health Services Administration
Contract No. 280-94-0014

Frontier Mental Health Resource Network
Please send comments and suggestions on this home page to Courtenay Harding at charding@wiche.edu
http://www.wiche.edu/mentalhealth/Frontier

Frontier Mental Health Services Resource Network

Final TA Report of Network Members for October 1994 - March 1999

Consultant Experts

Time spent to the nearest 1/4 hour:	26.00
Number of people contacted:	269
Total number of contact hours:	475.00

Andrew B. Keller

Time spent to the nearest 1/4 hour:	8.25
Number of people contacted:	57
Total number of contact hours:	59.25

James A. Ciarlo

Time spent to the nearest 1/4 hour:	112.75
Number of people contacted:	585
Total number of contact hours:	901.00

Walter F. LaMendola

Time spent to the nearest 1/4 hour:	
Number of people contacted:	142
Total number of contact hours:	425.00

Joanne DeBruyn

Time spent to the nearest 1/4 hour:	10.00
Number of people contacted:	40
Total number of contact hours:	10.00

Frank D. McGuirk

Time spent to the nearest 1/4 hour:	
Number of people contacted:	810
Total number of contact hours:	722.50

Jack M. Geller

Time spent to the nearest 1/4 hour:	29.50
Number of people contacted:	170
Total number of contact hours:	220.75

Dennis F. Mohatt

Time spent to the nearest 1/4 hour:	
Number of people contacted:	701
Total number of contact hours:	1345.0

Harold F. Goldsmith

Time spent to the nearest 1/4 hour	4.50
Number of people contacted:	88
Total number of contact hours:	65.50

Mary L. Obata

Time spent to the nearest 1/4 hour:	
Number of people contacted:	48
Total number of contact hours:	12.50

Courtenay M. Harding

Time spent to the nearest 1/4 hour:	29.50
Number of people contacted:	78
Total number of contact hours:	265.50

James E. Sorensen

Time spent to the nearest 1/4 hour:	174.00
Number of people contacted:	451
Total number of contact hours:	1383.3

Charles E. Holzer III

Time spent to the nearest 1/4 hour:	87.00
Number of people contacted:	465
Total number of contact hours:	627.00

John H. (Jack) Wackwitz

Time spent to the nearest 1/4 hour:	
Number of people contacted:	123
Total number of contact hours:	119.00

Frontier Mental Health Services Resource Network

Final TA Report of Network Members for October 1994 - March 1999

Morton O. Wagenfeld

Time spent to the nearest 1/4 hour:	85.50
Number of people contacted:	549
Total number of contact hours:	694.50

Pearlanne Zelarney

Time spent to the nearest 1/4 hour:	0.75
Number of people contacted:	12
Total number of contact hours:	5.75

Total no. of logs: 409 Total no. of people contacted: 4,568 Total no. of unduplicated people contacted (since Oct 97): 893/1,618 Total no. of hours: 698.00 Total no. of contact hours: 7,331.50

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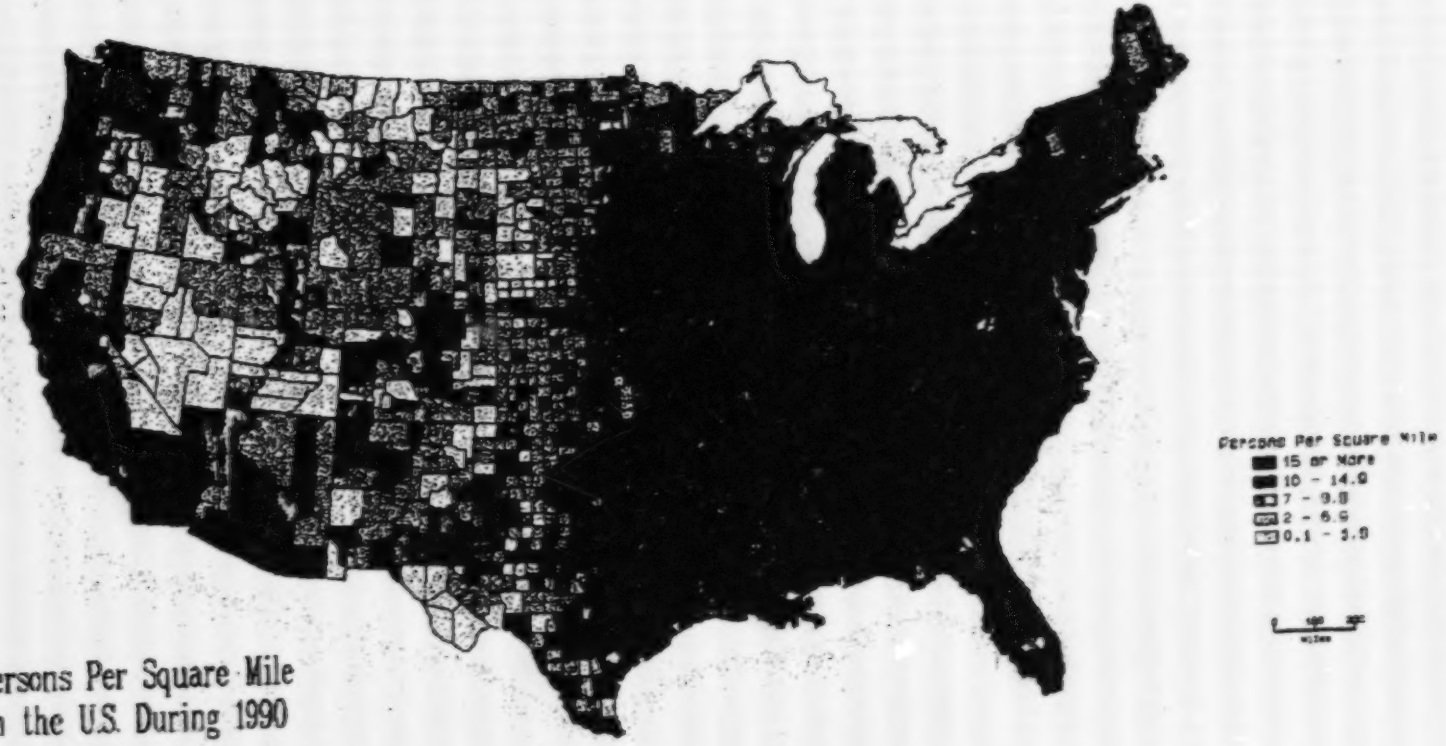
http://www.wiche.edu/mentalhealth/Frontier



Persons Per Square Mile
In the U.S. During 1990

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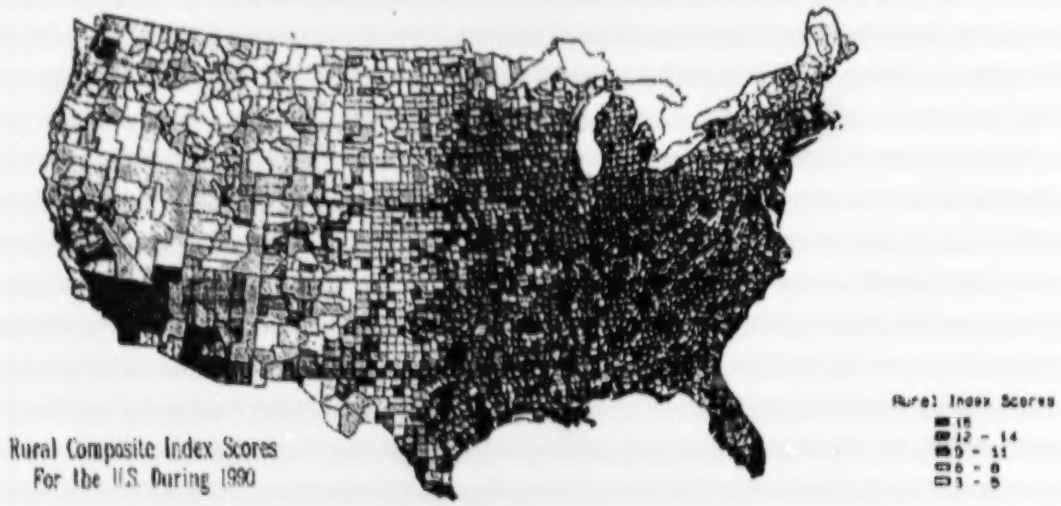
Figure 1. Rural Composite Index Scores for U.S. Counties (1990)



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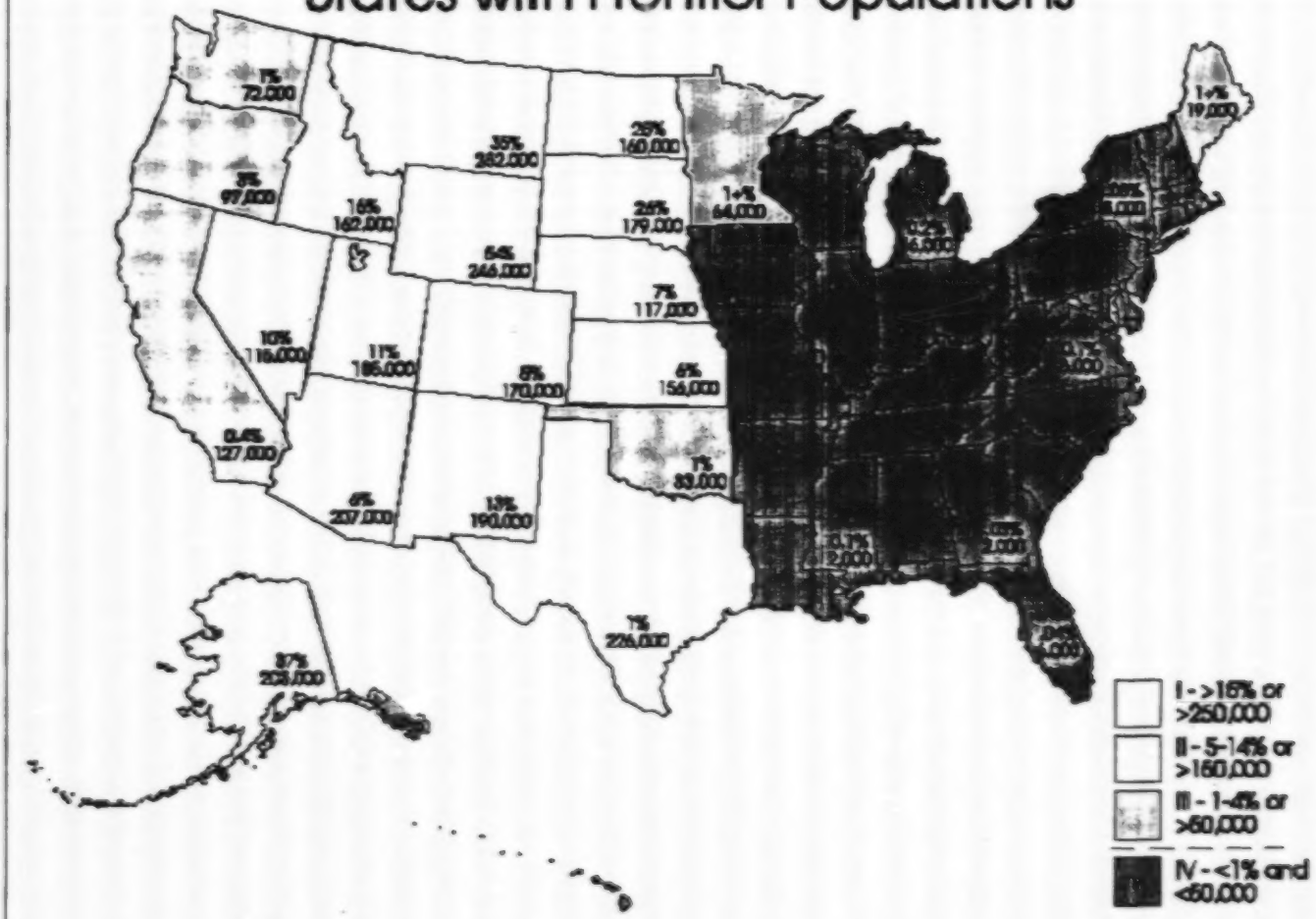
States with Frontier Populations



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